

CONTAINS HIGHLY CONFIDENTIAL MATERIAL SUBJECT TO PROTECTIVE ORDER

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

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ADVANCED ANALYTICS, INC.,	:	
Plaintiff and Counterclaim-Defendant,	:	No. 04 Civ. 3531 (LTS)
	:	
vs.	:	2nd DECLARATION
	:	Of Jianqing Fan
	:	
	:	
	:	
CITIGROUP GLOBAL MARKETS, INC. f/k/a	:	
SALOMON SMITH BARNEY, INC., and THE	:	
YIELD BOOK INC, f/k/a SALOMON	:	
ANALYTICS, INC.,	:	
	:	
Defendants and Counterclaim- Plaintiff	:	
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43. Another indication of copying of ACE 64 in the Teytel Notebook is found on CGM 00238 (Teytel Notebook)(Munves Decl. P). Teytel refers to the source code “-gauss_random with fixed long seeding” as being one of the programs he used to conduct the “ACE64 comparison for lds 100”.⁸ Previously, when Robert Russell had been testing the ACE sequences for defendants, he had used a modified version of the gauss_random.c program. Robert Russell Dep. 479:19-480:6 (Munves Decl. O). Teytel’s Notebook reference here to “gauss_random” clearly does not refer to the gauss_random.c program used to generate the 200 path single seed sequence, because that sequence was not being tested here. Teytel’s own notation states that the comparison here was for a test between the “ACE64” and Teytel’s “lds 100” mixed seed sequence. There was simply no reason to generate the old single seed 200 path sequence for this comparison between ACE64 sequence and the Teytel

⁸ Teytel referred to his sequences in the Notebook as “lds” which stands for “low discrepancy sequence.” But in the field, this term refers to sequences that are calculated from mathematical formulae rather than being selected using arbitrary seed selection and a pseudo random number generator as Teytel claims he used. LDS is an inappropriate description of Teytel’s mixed-seed methodology implemented using the pseudo random number generator to test arbitrary seeds. Not having any experience in the field, he did not know this.

100 path mixed seed sequence (“lds 100”). Therefore, the reference to “gauss_random” here must be a reference to the modified version of the gauss_random.c program used by Robert Russell, who both tested ACE and supervised Teytel, to read in the ACE sequences. This is crystal clear evidence that Teytel had possession of the ACE64 sequence

44. Further, as noted above, immediately after the reference to “gauss_random” is the reference to “with fixed long seeding” -- so the entry on CGM 00238 reads “gauss_random with fixed long seeding”. In C code terminology, the computer language “gauss_random was written it, the default mixed seeds or “seeding” used by defendants to seed their pseudo random number generator to produce LDS100 are all “short integers.” “Short integers” are integers having a maximum value of 32,767⁹ (see the numbers used as seeds in gauss_random_mixed.c found in 1999-11-1¹⁰). In contrast, the default seed in the gauss_random.c program used to generate the old 200 path single seed sequence is a fixed long integer - Redacted¹¹. Thus, the “gauss_random” program referred to when Teytel referenced “gauss_random with fixed long seeding” cannot be any version of gauss_random.c that might have been modified to test this 100 path mixed seed sequence or Teytel would have referred to it as “gauss_random with mixed short seeding” rather than “gauss_random with fixed long seeding”. This further supports the conclusion that the

⁹ http://en.wikipedia.org/wiki/Short_integer , http://en.wikipedia.org/wiki/Long_integer

¹⁰ The following comes from gauss_random_mixed.c dated on 99-11-01 provided by defendants on 8-17-07 (all seeds listed are short integers):

Redacted

¹¹ The following comes from all versions of gauss.rndom.c 94-10-1 until 4-27-2006 provided by Defendants: Redacted; is a long integer):

“ Redacted ;

entry on CGM 00238 - “gauss_random with fixed long seeding” - is a reference to the gauss_random.c program modified by Robert Russell to read in the ACE sequences during testing.